English

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Edition A

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English

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FEDERAL COMMUNICATIONS COMMISSION (FCC) WARNING

Instruction to Users

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to part 15 of the FCC rules. Only peripherals (computer input / output devices, terminals, printers etc.) certified to comply to the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

Remarks

To meet FCC requirement, shielded cables are required to connect the device to a personal computer or other Class B certified device.

Information to Users

Any change or modifications expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

DOC NOTICE

This product conforms to Canadian Class B emissions regulations.

Ce produit est conforme aux réglements d'émission Canadienne class B.

SAFETY PRECAUTIONS

Power Input

Refer to the section about "Connecting the Power Cord".

- ***Do not modify the three-prong grounding type monitor power plug in any way.***

Installation

- ***Do not place the monitor on an unstable cart, stand, or shelf where it may fall and injure personnel or damage equipment.***

- ***Route power cord so that it cannot be walked upon or tripped over.***
  Do not allow anything to rest on the power cord.

- ***Do not install the monitor where there is dampness, or where it may be exposed to rain or water. Avoid spilling liquid of any kind on the unit.***

Ventilation

- ***Do not block or cover ventilation openings on the back or bottom of the monitor cabinet.***

- ***Do not place the monitor near a radiator or heating vent.***

- ***Do not push objects of any kind through cabinet openings. This may result in fire or electric shock.***

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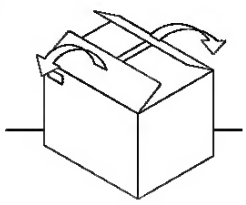
PACKING CONTENTS

The package contains:

- CRT monitor
- AC power cord
- User manual

UNPACKING PROCEDURE

1



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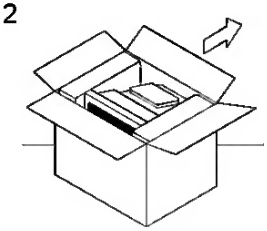

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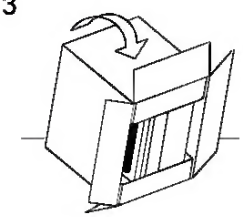

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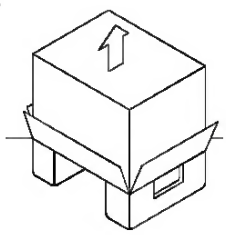

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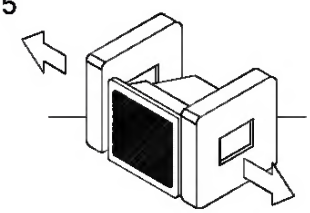

REPACKING

Save the origional box and all packing material for future shipping needs.

* ***Packing materials and product are recyclable.***

INTRODUCTION

This microprocessor-based, digital control 19" color monitor is a high performance and easy to use product.

It employs the latest on-screen-menu technology. The microprocessor capability offers 10 most commonly used VESA timing modes preset in the factory, and 6 modes for user to adjust to the special timings that user might have.

We hope that you will find this manual is helpful in obtaining the fullest use of your monitor, and in ensuring your personal safety during operation.

POWER SAVING

The monitor will be driven into "Power Saving" mode by the control signal from the display controller, as indicated by the amber-color power LED.

State	Power Consumption	LED Light
ON	Normal	Green
OFF	< 5 W	Amber

The power saving states will be kept until a control signal has been detected or the keyboard or mouse is activated. The recovery time from Active OFF state back to ON state is around 10 seconds.

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INSTALL THE MONITOR

- To connect the tilt/swivel base to the monitor, align hooks with the sockets on bottom side of the monitor, and gently push the base towards the front of the monitor.
- The 15-pin D-shell signal connector on the signal cable will connect easily to the video adapter output on your personal computer. Lock both screws on the connector to ensure a firm connection.
- Turn the PC power switch ON. Then turn the monitor power switch ON, by pressing the switch inward. The green power indicator will light up.
- Allow about 30 seconds for the CRT tube to warm up. Data will be displayed on the screen.
- If your display fails to function properly, please first refer to the section "Troubleshooting" in this manual.

POWER CORD

- Check first to make sure that the power cord you use is the correct type required for your area.
- Type NO: C1996NSL
  This monitor has a universal power supply that allows operation in either 100/120V AC or 200/240V AC voltage area. No user-adjustment is required.
- First connect the power cord into your monitor's power input socket, and then plug the other end into a 3-pin AC outlet. The power cord may be connected to either a wall socket or the power output socket on your PC, depending on the type of power cord supplied with your monitor.
- For units to be used at 120V AC:
  Use a UL Listed Cord Set consisting of a min. No. 18 AWG, Type SVT or SJT three-conductor a maximum of 10 ft. in length and a parallel blade, grounding type attachment plug rated 10A, 125V.
- For units to be used at 240V AC (domestic use):
  Use a UL Listed Cord Set consisting of a min. No. 18 AWG, Type SVT or SJT three-conductor cord a maximum of 10 ft. in length and a tandem blade, grounding type attachment plug rated 10A, 250V.
- Type NO: C1996PNST
  For units to be used at 220/240V AC (outside of U.S.):
  Use a Cord Set consisting of a min. 0.75mm^2,3G, Type H05VV-F cord and grounding type attachment plug rated 16A, 250V. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed and marked HAR.

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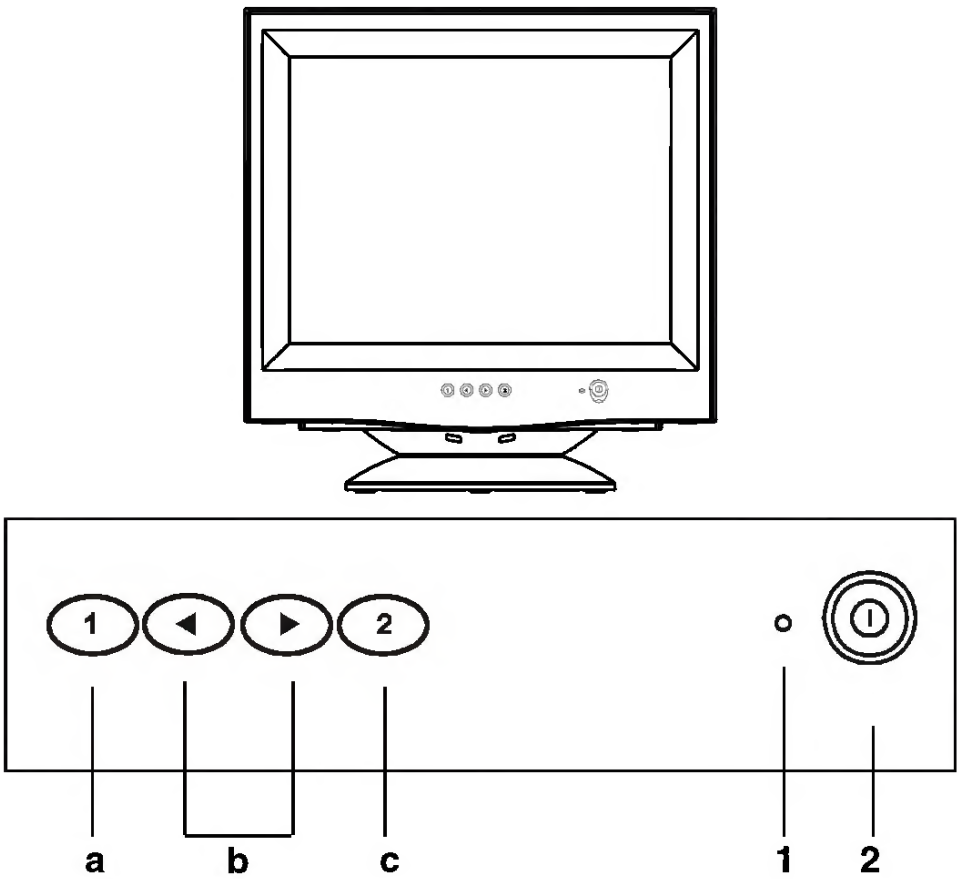
USER CONTROLS AND INDICATORS



a. **Displays menu & exits menu**
b. **Scrolls through menu to choose an icon for adjustment / Adjusts level of selected icon**
c. **Confirms menu selection**

1. **Power LED**
2. **Power ON/OFF switch**

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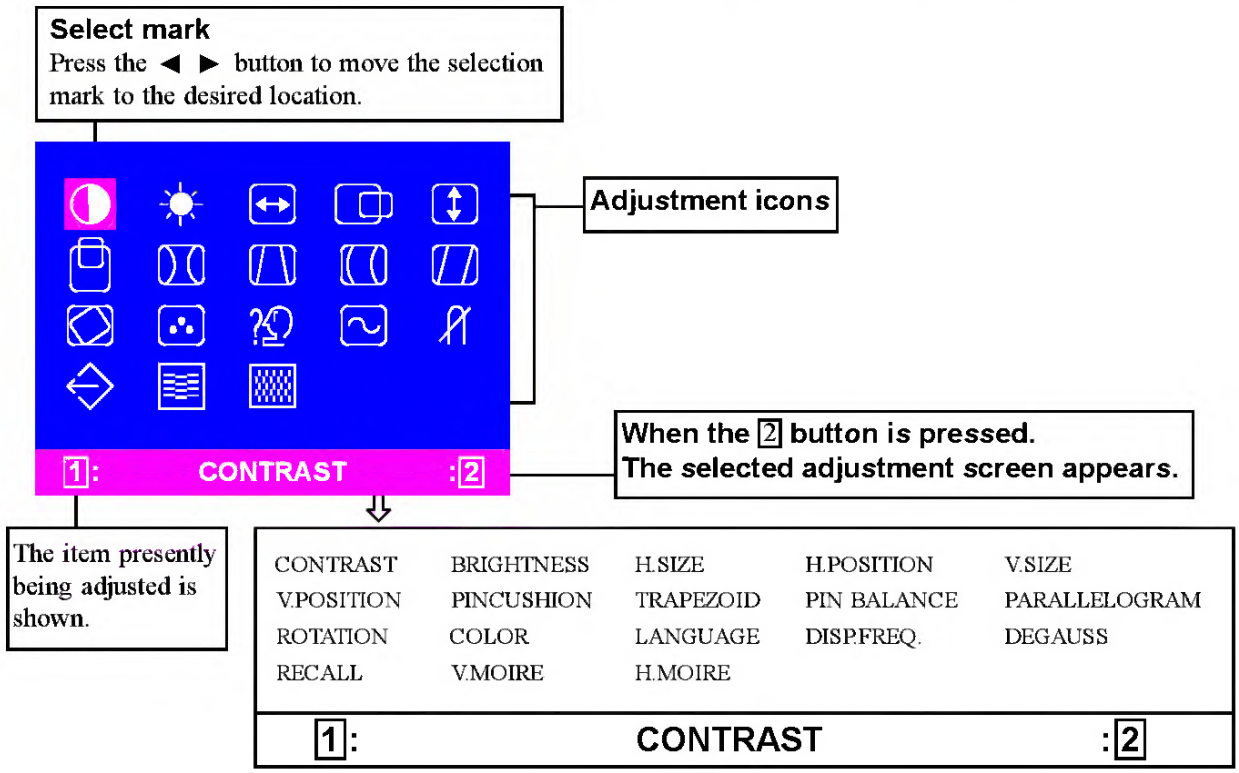
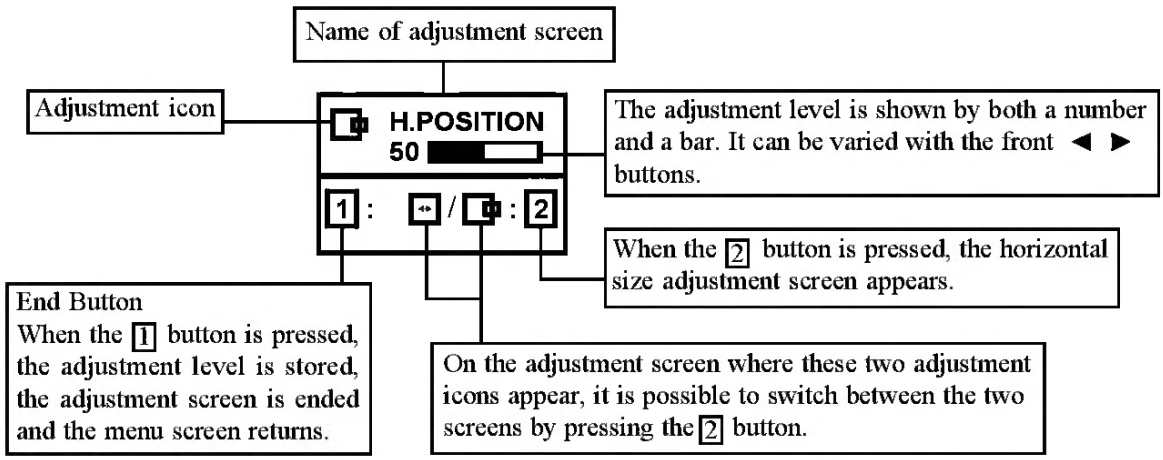
USING THE ON-SCREEN MENU

1) Menu screen-press the [1] button to display the menu below and exit menus


Select mark
Press the ◄ ► button to move the selection mark to the desired location.
Adjustment icons
When the [2] button is pressed.
The selected adjustment screen appears.
1: CONTRAST :2
The item presently being adjusted is shown.
CONTRAST BRIGHTNESS H.SIZE H.POSITION V.SIZE
V.POSITION PINCUSHION TRAPEZOID PIN BALANCE PARALLELOGRAM
ROTATION COLOR LANGUAGE DISP.FREQ. DEGAUSS
RECALL V.MOIRE H.MOIRE
1: CONTRAST :2

2) Adjustment screen (example: horizontal position adjustment)


Name of adjustment screen
Adjustment icon
H.POSITION
50
1 : / : 2
The adjustment level is shown by both a number and a bar. It can be varied with the front ◄ ► buttons.
When the [2] button is pressed, the horizontal size adjustment screen appears.
End Button
When the [1] button is pressed, the adjustment level is stored, the adjustment screen is ended and the menu screen returns.
On the adjustment screen where these two adjustment icons appear, it is possible to switch between the two screens by pressing the [2] button.

NOTE: The amount of adjustment depends upon how long you depress the adjustment button. You may have to tap the button to obtain the desired results.

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INDIVIDUAL ADJUSTMENT

CONTRAST adjustment

Adjust the screen contrast to match your personal perference.
Press the ◀ button to decrease contrast and press the ▶ button to increase it.
Direct operation: You can access the CONTRAST adjustment screen by pressing the ◀ or ▶ before entering the menu screen.
Press the 2 key toggles between CONTRAST and BRIGHTNESS.

BRIGHTNESS adjustment

Adjusts the brightness to get the desired background level.
Press the ▶ button to make the background lighter, the ◀ button to make it darker.
Press the 2 key toggles between CONTRAST and BRIGHTNESS.

HORIZONTAL SIZE adjustment

Fills the viewable area horizontally.
Press the ◀ button to make the image narrower, or press the ▶ button to make it wider.
Press the 2 key toggles between HORIZONTAL SIZE and HORIZONTAL POSITION.

HORIZONTAL POSITION adjustment

Shifts the image on the screen horizontally.
Press the ◀ button to move the screen image to the left, or press the ▶ button to move it to the right.
Press the 2 key toggles between HORIZONTAL SIZE and HORIZONTAL POSITION.

VERTICAL SIZE adjustment

Fills the viewable area vertically.
Press the ◀ button to make the image smaller, or press the ▶ button to make it larger. Press the 2 key toggles between VERTICAL SIZE and VERTICAL POSITION.

VERTICAL POSITION adjustment

Shifts the image on the screen vertically.
Press the ◀ button to move it downward, or press the ▶ button to move it upward.
Press the 2 key toggles between VERTICAL SIZE and VERTICAL POSITION

VERTICAL PINCUSHION adjustment

The image can be corrected for barrel distortion.
Press the ◀ button or the ▶ button to eliminate curved vertical lines.
Press the 2 key toggles between VERTICAL PINCUSHION and TRAPEZOIDAL correction.

TRAPEZOID adjustment

The image can be corrected for the trapezoidal distortion.
Press the ◀ button to narrow the top edge, or press the ▶ button to make the top edge wider.
Press the 2 key toggles between VERTICAL PINCUSHION and TRAPEZOID correction.

PIN BALANCE adjustment

The image can be corrected for pin balance distortion.
Press the ◀ button or ▶ button to make left or right pin balance.
Press the key toggles betwen PIN BALANCE and PARALLELOGRAM correction.

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PARALLELOGRAM adjustment

The image can be corrected for parallelogram distortion.
Press the ◄ button or ► button to make left or right parallelogram.
Press the [2] key toggles between PIN BALANCE and PARALLELOGRAM correction.

ROTATION adjustment

The image can be corrected for tilt picture.
Press the ◄ button to tilt the image to the left, or press the ► button to tilt the image to the right.

COLOR selection

The white in the image can be adjusted.

1) Use the ◄ ► button to select: (1)9300°K, (2)6500°K or (3)the user's preferred color.
2) If the (3):the user's color is selected, "2" appears in the lower right of the On-Screen Menu.

Press the front [2] button to display the USER COLOR adjustment screen.

USER COLOR

The white in the video image can be adjusted to the user's preferred color.
1) Use the [2] button to select R (red) or B (blue).
2) Use the ◄ ► button to adjust the color as desired.

IMPORTANT-Memory recall of the user's color is not possible, so take note of the initial setting before adjusting.
When the monitor is turned OFF, user color keeps the last adjustment.

LANGUAGE selection

The language of the On-Screen Menu can be selected among English, French, German, Italian and Spanish. Select with the ◄ ► buttons.

DISP. FREQ (Input frequency display)

This displays the input synchronization signal frequency.
It identifies the horizontal and vertical frequency sent to the monitor from the video card currently in use.

MANUAL DEGAUSSING

After moving the selector to the degauss icon, press the [2] button. The degaussing action takes place a few seconds later.
Note: A sharp snap noise may be heard when degaussing occurs. This is normal.

MEMORY RECALL

It is possible to restore adjustments to the original factory settings. If the monitor is operating in a user defined mode, this control has no effect.

VERTICAL MOIRE

Reduce the dark wavy line Moire pattern on the screen.
Press the ◄ or ► button to minimize the vertical moire image on the screen.

HORIZONTAL MOIRE

Reduce the dark wavy line Moire pattern on the screen.
Press the ◄ or ► button to minimize the horizontal moire image on the screen.

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TROUBLESHOOTING

If your monitor fails to operate functionally, it may be possible to correct the problem by making simple checks as follows:

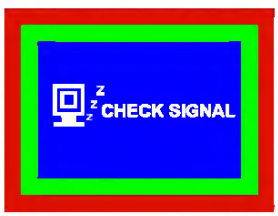
Problem	Check & Adjust	
Blank screen (* NOTE)	·	Monitor power switch, power cord, signal cable, or connector
	·	PC power switch
	·	Brightness & contrast controls
Display position off-center	·	Vertical centering & horizontal phase controls
Display too small or too large	·	Vertical & horizontal size controls
Display too bright or too dim	·	Brightness & contrast controls

Refer to the operation instructions for your computer/ video adapter to ensure that you have the correct signal output source for the monitor. Ensure that the switches on the video adapter are set correctly for operation with this monitor.

If the above steps fail to correct the problem contact your dealer for servicing by qualified service personnel.

Please remember that the monitor should be returned for servicing together with the power cord.

* **NOTE**: You can easily distinguish the problem is on the monitor or on the computer by using the monitor's built-in selftest function. With the monitor power ON, disconnect the signal cable from monitor. If you see a "CHECK SIGNAL" image on the screen, (shown below) the monitor is function properly, and the problem is at PC side, or signal cable.

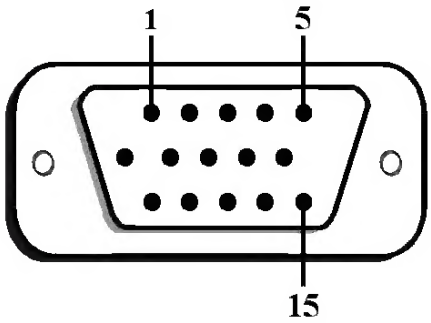


SERVICING

Refer all servicing to qualified service personnel. **Serious shock hazards exist within the covers of this monitor.**

Do not open the covers under any circumstances- there are no serviceable parts inside.

SIGNAL CONNECTOR INFORMATION



Pin	Function	Pin	Function
1	Red signal	9	**
2	Green signal	10	Digital ground
3	Blue signal	11	Ground
4	Ground	12	SDA (DDC1/DDC2B)
5	*	13	Horizontal Synchronization
6	Red return	14	Vertical synchronization & VCLK (DDC1)
7	Green return	15	SCL (DDC 2B)
8	Blue return		

***NOTE:** This pin is used for self test detection; at PC side, this pin has to be connected to ground.

****NOTE:** This pin is used for PC99, at PC side, this pin will supply +5VDC.

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TECHNICAL SPECIFICATIONS

Screen Size	19" visual diagonal 18" Viewable screen size; Anti-Static, Anti-Glare, Anti-Reflection, etched dark	Power Input Voltage Frequency	C1996NSL: 100 to 240V AC 50 - 60 Hz C1996PNST: 200 to 240V AC 50 - 60 Hz
Dot Pitch	0.26 mm	Current Rating	2.0 A
Display Area Default Full Scan (H x W)	262 x 350 (mm), typical 276 x 368 (mm), depends on signal timing	Power Consumption	130 W (MAX.)
Display Colors	Infinite	Dimension (W x H x D)	452 x 460 x 467.8 (mm)
Max. Resolution	1600 Dots x 1200 Lines	Weight	20 kg
Compatibility	All graphic modes with horizontal frequencies between 30 KHz to 96 KHz	Operating Temperature	5°C to 35°C
Synchronization Horizontal: Vertical:	 30 to 96 KHz 55 to 160Hz	Storage Temperature	-40°C to 65°C
Bandwidth	202 MHz	Humidity	20% to 80% (non-condensing)
Input Signal	Video RGB Analog Sync. TTL Separate	Altitude	Up to 7,000 ft
Signal Cable	15-pin D-sub connector	TCO (optional)	Meet TCO99

* ***Specifications are subject to change without notice.***

** ***This product is ERGONOMICS APPROVED.***

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PRESET MODES

Mode	Resolution (H x V)	H. Freq. (KHz)	V. Freq. (Hz)	Mode	Resolution (H x V)	H. Freq. (KHz)	V. Freq. (Hz)
1	640 x 480	31.47	60	6	1152 x 870	68.68	75
2	720 x 400	37.93	85	7	1024 x 768	68.67	85
3	640 x 480	43.27	85	8	1600 x 1200	75.00	60
4	832 x 624	49.73	75	9	1024 x 768	91.15	85
5	800 x 600	53.67	85	10	1600 x 1200	93.75	75

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